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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/764,037 | 01/23/2004 | Ying-Cheng Chuang | B-5017DIV 621541-7 | 7960 |
| 36716 | 7590 | 03/07/2006 | EXAMINER | |
| LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679 | | | THOMAS, TONIAE M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2822 | |

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/764,037

Applicant(s)

CHUANG ET AL.

Examiner

Toniae M. Thomas

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-19 is/are allowed.
- 6) ☒ Claim(s) 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/395,991.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 February 2006 has been entered.
2. Currently, claims 11-19 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

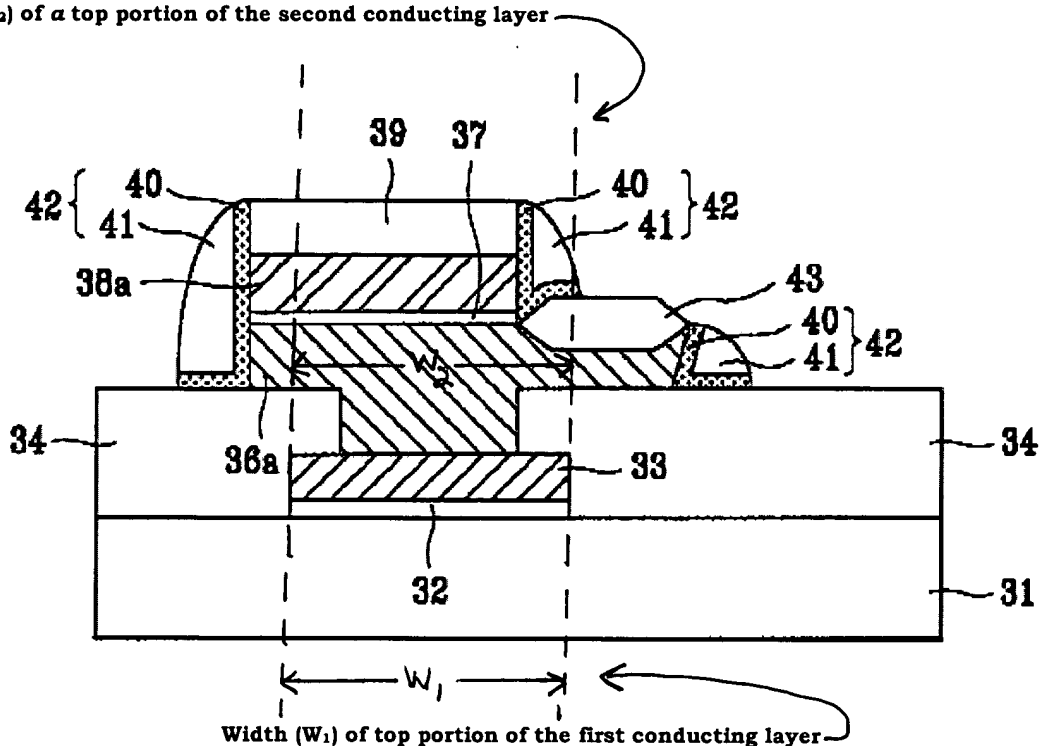
3. Claims 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Na et al. (US 2002/0017680 A1).

The Na et al. pre-grant published application (Na) discloses a floating gate (see figs. 5A-5I and accompanying text). The floating gate comprises a first conducting layer 33 with a top surface and a sidewall (see fig. 5H and par. 43, lines 1-6, wherein a first edge is formed at an intersection of the top surface and the sidewall, the sidewall and portions of the top surface being covered by

a dielectric material (fig. 5H and par. 44, lines 1-5); and a second conducting layer 36 symmetric about a vertical center line (see Fig. A below) with a bird's beak edge (fig. 5H and par. 51, lines 8-12),¹ wherein the second conducting layer is formed on the first conducting layer.

Figure A

Width (W_2) of a top portion of the second conducting layer



The first conducting layer 33 comprises a poly layer (par. 43, lines 1-6).

The second conducting layer 36 comprises a poly layer (par. 45, lines 1-4).

A bottom portion of the second conducting layer 36 is narrower than a top portion of the first conducting layer 33 (see fig. 5H).

¹ The bird's beak edge of the second conducting layer corresponds to the bird's beak shape of the tunneling insulation film 43.

Figure B



Response to Arguments

Applicant's arguments filed on 02 February 2006 have been fully considered, but are not persuasive for reasons as follows.

Claim 11, as presented in the amendment filed on 21 February 2006, recites “a second conducting layer symmetric about a vertical center line” (claim 11, line 5). In the remarks submitted on 21 February 2006, Applicants argue that the Na et al. application publication (Na), US 2002/0017680 A1, which was relied upon in the final Office action mailed on 30 November 2005, does not disclose, suggest or teach “a second conducting layer symmetric about a vertical center line” as recited in amended claim 11 because 1) “the top right portion of the layer 36a extends farther over the layer 34 than the top left portion of the layer 36a,” and 2) “the top right portion of the layer 36a contains a recess while the top left portion of the layer 36a does not.”

It is the examiner’s position that Na *does* disclose a second conducting layer symmetric about a vertical center line. The fact that 1) “the top right portion of the layer 36a extends farther over the layer 34 than the top left portion of the layer 36a,” and 2) “the top right portion of the layer 36a contains a recess while the top left portion of the layer 36a does not” is irrelevant. First, while claim 11 recites the limitation “a second conducting layer symmetric about a vertical center line,” the claim does not particularly require that the vertical line be centered with respect to the second conducting layer. In other words, the claim does not require the vertical line to intersect the second conducting layer through its center. On the contrary, the vertical line can be interpreted as any vertical center line. In light of this interpretation, Na discloses a second conducting layer about a vertical center line as shown in

Figure B above. Secondly, the claim does not define what is meant by the phrase *symmetric about the vertical center line*. For example, the phrase can mean that the portion of the second conducting layer to the left of the vertical line and the portion of the second conducting layer to the right of the vertical line are equidistant from the vertical center line, or it can mean that the left and right portions of the second conducting layers both have exactly the same dimensions. In light of these interpretations, Na discloses a second conducting layer symmetric about a vertical center line as shown in the Figure B above. In conclusion, it is the examiner's position that, claim 11 does not distinguish over the prior art reference for at least the reasons set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toniae M. Thomas whose telephone number is (571) 272-1846. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Toniae M. Thomas
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Patent Examiner
Technology Center 2800